<u>What is claimed is</u>:

1. A system for monitoring the concentration of a gas in at least one container, comprising:

an energy emitting device, adapted to emit an energy signal toward said container, said energy signal having substantially a single wavelength that is substantially equal to a wavelength at which said gas absorbs said energy signal;

a detector, adapted to detect a portion of said energy signal that passes through said container; and

a signal analyzer, adapted to analyze said detected portion of said energy signal to determine whether said gas exists in said container.

2. A system as claimed in claim 1, wherein:

said gas includes oxygen; and

said energy emitting device is adapted to emit said energy signal at said wavelength at which oxygen absorbs said energy signal.

3. A system as claimed in claim 1, wherein:

said gas includes carbon dioxide; and

said energy emitting device is adapted to emit said energy signal at said wavelength at which carbon dioxide absorbs said energy signal.

4. A system as claimed in claim 1, wherein:

said signal analyzer is adapted to analyze said detected portion of said energy signal to determine whether any of said energy signal being emitted toward said container was absorbed by said gas.

5. A system as claimed in claim 1, wherein:

said signal analyzer is adapted to analyze said detected portion of said energy signal to detect a change in pressure in said container to determine, based on said change in pressure, whether said gas exists in said container.

6. A system as claimed in claim 1, further comprising:

an organism detector which is adapted, based on a result provided by said signal analyzer, to determine whether an organism which consumes or emits said gas is present in said container.

7. A system as claimed in claim 1, wherein:

said gas includes one of NH_3, H_2S, CH_4 or SO_2; and

said energy emitting device is adapted to emit said energy signal at said wavelength at which said one of NH_3, H_2S, CH_4 or SO_2 absorbs said energy signal.

8. A system as claimed in claim 1, wherein:

said energy emitting device includes a laser which is adapted to emit laser light as said energy signal.

9. A system as claimed in claim 1, wherein:

said energy emitting device emits said energy signal as infrared light.

10. A system as claimed in claim 1, wherein:

said signal analyzer includes a spectrography device, adapted to spectrographically analyze said detected portion of said energy signal.

11. A system for monitoring pressure in at least one container, comprising:

an energy emitting device, adapted to emit an energy signal toward said container, said energy signal having a substantially single wavelength that is substantially equal to a wavelength at which a gas in said container absorbs said energy signal;

a detector, adapted to detect a portion of said energy signal that passes through said container; and

a signal analyzer, adapted to analyze said detected portion of said energy signal to determine a pressure in said container.

12. A system as claimed in claim 11, wherein:

said gas includes oxygen; and

said energy emitting device is adapted to emit said energy signal at said wavelength at which oxygen absorbs said energy signal.

13. A system as claimed in claim 11, wherein:

said gas includes carbon dioxide; and

said energy emitting device is adapted to emit said energy signal at said wavelength at which carbon dioxide absorbs said energy signal.

14. A system as claimed in claim 11, wherein:

said gas includes one of NH_3, H_2S, CH_4 or SO_2; and

said energy emitting device is adapted to emit said energy signal at said wavelength at which said one of NH_3, H_2S, CH_4 or SO_2 absorbs said energy signal.

15. A system as claimed in claim 11, wherein:

said signal analyzer is adapted to analyze said detected portion of said energy signal to determine whether any of said energy signal being emitted toward said container was absorbed by said gas.

16 A system as claimed in claim 11, further comprising:

an organism detector which is adapted, based on a result provided by said signal analyzer, to determine whether an organism which consumes or emits said gas is present in said container.

17 A system as claimed in claim 11, wherein:

said energy emitting device includes a laser which is adapted to emit laser light as said energy signal.

18 A system as claimed in claim 11 wherein:

said energy emitting device emits said energy signal as infrared light.

19. A system as claimed in claim 11, wherein:

said signal analyzer includes a spectrography device, adapted to spectrographically analyze said detected portion of said energy signal.

20. A method for monitoring the concentration of a gas in at least one container, comprising the steps of:

emitting an energy signal toward said container, said energy signal having a substantially single wavelength that is substantially equal to a wavelength at which said gas absorbs said energy signal;

detecting a portion of said energy signal that passes through said container; and

analyzing said detected portion of said energy signal to determine whether said gas exists in said container.

21. A method as claimed in claim 20, wherein:

said gas includes oxygen; and

said emitting step emits said energy signal at said wavelength at which oxygen absorbs said energy signal.

22. A method as claimed in claim 20, wherein:

said gas includes carbon dioxide; and

said emitting step emits said energy signal at said wavelength at which carbon dioxide absorbs said energy signal.

23. A method as claimed in claim 20, wherein

said gas includes one of NH_3, H_2S, CH_4 or SO_2; and

said energy emitting device is adapted to emit said energy signal at said wavelength at which said one of NH_3, H_2S, CH_4 or SO_2 absorbs said energy signal.

24. A method as claimed in claim 20, wherein:

said analyzing step analyzes said detected portion of said energy signal to determine whether any of said energy signal being emitted toward said container was absorbed by said gas.

25. A method as claimed in claim 20, wherein:

said analyzing step analyzes said detected portion of said energy signal to detect a change in pressure in said container to determine, based on said change in pressure, whether said gas exists in said container.

26. A method as claimed in claim 20, further comprising the step of:

determining, based on a result provided by said analyzing step, whether an organism which consumes or emits said gas is present in said container.

27. A method as claimed in claim 20, wherein:

said energy emitting step emits laser light as said energy signal.

28. A method as claimed in claim 20, wherein:

said energy emitting step emits said energy as infrared light.

29. A method as claimed in claim 20, wherein:

said analyzing step spectrographically analyzes said detected portion of said energy signal.

30. A method for monitoring pressure in at least one container, comprising the steps of:

emitting an energy signal toward said container, said energy signal having a substantially single wavelength that is substantially equal to a wavelength at which a gas in said container absorbs said energy signal;

detecting a portion of said energy signal that passes through said container; and

analyzing said detected portion of said energy signal to determine a pressure in said container.

31. A method as claimed in claim 30, wherein:

said gas includes oxygen; and

said energy emitting step emits said energy signal at said wavelength at which oxygen absorbs said energy signal.

32. A method as claimed in claim 30, wherein:

said gas includes carbon dioxide; and

said energy emitting step emits said energy signal at said wavelength at which carbon dioxide absorbs said energy signal.

33. A system as claimed in claim 30, wherein:

said gas includes one of NH_3, H_2S, CH_4 or SO_2; and

said energy emitting device is adapted to emit said energy signal at said wavelength at which said one of NH_3, H_2S, CH_4 or SO_2 absorbs said energy signal.

34. A method as claimed in claim 30, wherein:

said signal analyzing step analyzes said detected portion of said energy signal to determine whether any of said energy signal being emitted toward said container was absorbed by said gas.

35. A method as claimed in claim 30, further comprising the step of:

determining, based on a result provided by said signal analyzer, whether an organism which consumes or emits said gas is present in said container.

36. A method as claimed in claim 30, wherein:

said energy emitting step emits laser light as said energy signal.

37. A method as claimed in claim 30, wherein:

said energy emitting step emits said energy signal as infrared light.

38. A method as claimed in claim 30, wherein:

said signal analyzing step spectrographically analyzes said detected portion of said energy signal.

39. A system as claimed in claim 1, further comprising:

a housing, adapted to house said energy emitting device and said detector, said housing being movable to position said energy emitting device and said detector proximate to each of said containers at different moments in time so that said energy emitting device is adapted to emit a respective said energy signal toward each said container and said detector is adapted to detect a portion of each said respective energy signal that passes through each said respective container; and

said signal analyzer is adapted to analyze each said detected portion of said each respective energy signal to determine whether said gas exists in each said respective container.

40. A system as claimed in claim 39, wherein:

said containers are arranged in a plurality of rows and columns; and

said housing is adapted to move along said rows and columns of said containers.

41. A system as claimed in claim 39, wherein:

said housing is adapted to extend said energy emitting device and said detector toward any said container and to retract said energy emitting device and said detector away from said any container.

42. A system as claimed in claim 11, further comprising:

a housing, adapted to house said energy emitting device and said detector, said housing being movable to position said energy emitting device and said detector proximate to each of said containers at different moments in time so that said energy emitting device is adapted to emit a respective said energy signal toward each said container and said detector is adapted to detect a portion of each said respective energy signal that passes through each said respective container; and

said signal analyzer is adapted to analyze each said detected portion of said each respective energy signal to determine a respective pressure in each said respective container.

43. A system as claimed in claim 42, wherein:

said containers are arranged in a plurality of rows and columns; and

said housing is adapted to move along said rows and columns of said containers.

44. A system as claimed in claim 42, wherein:

said housing is adapted to extend said energy emitting device and said detector toward any said container and to retract said energy emitting device and said detector away from said any container.

45. A method as claimed in claim 20, further comprising:

employing an energy emitting device, adapted to emit said energy signal, and a detector, adapted to detect said portion of said energy signal, in a housing;

moving said housing to position said energy emitting device and said detector proximate to each of said containers at different moments in time so that said energy emitting device is adapted to emit a respective said energy signal toward each said container and said detector is adapted to detect a portion of each said respective energy signal that passes through each said respective container; and

wherein said analyzing step analyzes each said detected portion of said each respective energy signal to determine whether said gas exists in each said respective container.

46. A method as claimed in claim 45, wherein:

said containers are arranged in a plurality of rows and columns; and

said moving step moves said housing along said rows and columns of said containers.

47. A method as claimed in claim 45, further comprising:

extending said energy emitting device and said detector toward any said container; and

retracting said energy emitting device and said detector away from said any container.

48. A method as claimed in claim 30, further comprising:

employing an energy emitting device, adapted to emit said energy signal, and a detector, adapted to detect said portion of said energy signal, in a housing;

moving said housing to position said energy emitting device and said detector proximate to each of said containers at different moments in time so that said energy emitting device is adapted to emit a respective said energy signal toward each said container and said detector is adapted to detect a portion of each said respective energy signal that passes through each said respective container; and

wherein said analyzing step analyzes each said detected portion of said each respective energy signal to determine said respective pressure in each said respective container.

49. A method as claimed in claim 48, wherein:

said containers are arranged in a plurality of rows and columns; and

said moving step moves said housing along said rows and columns of said containers.

50. A method as claimed in claim 48, further comprising:

extending said energy emitting device and said detector toward any said container; and

retracting said energy emitting device and said detector away from said any container.

51. A system as claimed in claim 1, further comprising:

a housing having openings therein, each opening being adapted to receive a respective one of said containers, said housing being movable to position each of said containers proximate to said energy emitting device and said detector at different moments in time so

that said energy emitting device is adapted to emit a respective said energy signal toward each said container and said detector is adapted to detect a portion of each said respective energy signal that passes through each said respective container; and

said signal analyzer is adapted to analyze each said detected portion of said each respective energy signal to determine whether said gas exists in each said respective container.

52. A system as claimed in claim 51, wherein:

said housing is substantially circular, and said openings are disposed circumferentially about said housing; and

said housing is adapted to rotate to move said containers proximate to said energy emitting device and said detector.

53. A system as claimed in claim 11, further comprising:

a housing having openings therein, each opening being adapted to receive a respective one of said containers, said housing being movable to position each of said containers proximate to said energy emitting device and said detector at different moments in time so that said energy emitting device is adapted to emit a respective said energy signal toward each said container and said detector is adapted to detect a portion of each said respective energy signal that passes through each said respective container; and

said signal analyzer is adapted to analyze each said detected portion of said each respective energy signal to determine whether said gas exists in each said respective container.

54. A system as claimed in claim 53, wherein:

said housing is substantially circular, and said openings are disposed circumferentially about said housing; and

said housing is adapted to rotate to move said containers proximate to said energy emitting device and said detector.

55. A method as claimed in claim 20, further comprising:

placing said containers in a housing having openings therein, each opening being adapted to receive a respective one of said containers; and

moving said housing to position each of said containers proximate to said energy emitting device and said detector at different moments in time so that said energy emitting device is adapted to emit a respective said energy signal toward each said container and said detector is adapted to detect a portion of each said respective energy signal that passes through each said respective container; and

wherein said analyzing step analyzes each said detected portion of said each respective energy signal to determine whether said gas exists in each said respective container.

56. A method as claimed in claim 55, wherein:

said housing is substantially circular, and said openings are disposed circumferentially about said housing; and

said moving step rotates said housing to move said containers proximate to said energy emitting device and said detector.

57. A method as claimed in claim 30, further comprising:

placing said containers in a housing having openings therein, each opening being adapted to receive a respective one of said containers; and

moving said housing to position each of said containers proximate to said energy emitting device and said detector at different moments in time so that said energy emitting device is adapted to emit a respective said energy signal toward each said container and said detector is adapted to detect a portion of each said respective energy signal that passes through each said respective container; and

wherein said analyzing step analyzes each said detected portion of said each respective energy signal to determine whether said gas exists in each said respective container.

58. A method as claimed in claim 57, wherein:

said housing is substantially circular, and said openings are disposed circumferentially about said housing; and

said moving step rotates said housing to move said containers proximate to said energy emitting device and said detector.